



LD850A200C16

850nm 200mW 60°C CW Laser Diode in ø5.6mm TO-56 Package

Description

The Lasermate LD850A200C16 is an 850nm, 200mW laser diode in a ø5.6mm, TO-can package and with operating temperature of 60°C. The laser diode is suitable as compact light source for many applications.

Features

- 850nm Infrared laser diode
- Optical output power: 200mW CW
- Operating temperature: +60°C
- Small perpendicular divergence angle
- Built-in photodiode for monitoring laser diode
- Package: TO-56 (dia. 5.6mm) with Pb-free window cap

Applications

- Motion sensor
- 3D depth sensor
- Illumination
- Industry
- Medical application

Absolute Maximum Ratings ($T_c = 25\text{ }^\circ\text{C}$)

PARAMETER	SYMBOL	RATING	UNIT
Optical output power	P_O	200	mW
Reverse voltage (LD)	V_{RL}	2	V
Reverse voltage (PD)	V_{RD}	30	V
Operating temperature (Case)	T_{op}	-10 to +60	°C
Storage temperature	T_{stg}	-40 to +85	°C

Electrical and Optical Characteristics ($T_c = 25\text{ }^\circ\text{C}$)

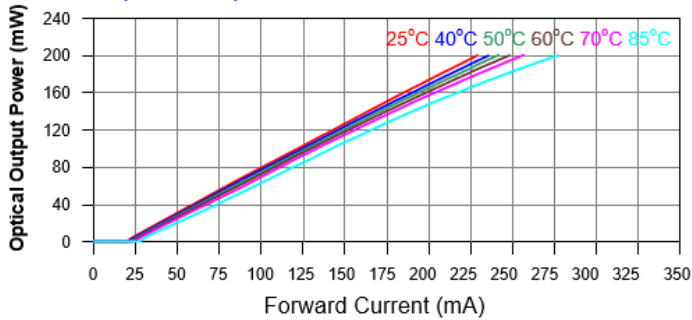
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Lasing wavelength	λ_p	840	850	860	nm	$P_O = 200\text{mW}$
Threshold current	I_{th}	-	18	30	mA	-
Operating current	I_{op}	-	230	265	mA	$P_O = 200\text{mW}$
Differential Efficiency	η	-	0.95	-	mW/mA	$P_O = 50\text{-}150\text{mW}$
Operating voltage	V_{op}	-	2.1	2.3	V	$P_O = 200\text{mW}$
Monitor current	I_m	0.1	0.4	1.0	mA	$P_O = 200\text{mW}, V_{RD}=5\text{V}$
Parallel divergence angle	$\Theta_{//}$	-	17	22	deg	$P_O = 200\text{mW}$
Perpendicular divergence angle	Θ_{\perp}	-	20	25	deg	$P_O = 200\text{mW}$

Note: $\Theta_{//}$ and Θ_{\perp} are defined as the angle within which the intensity is 50% of the peak value.

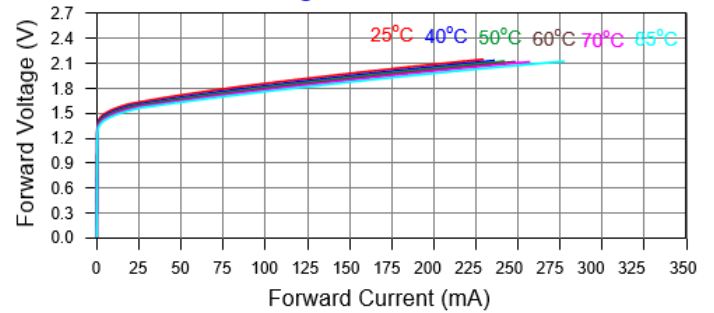


Typical Characteristics

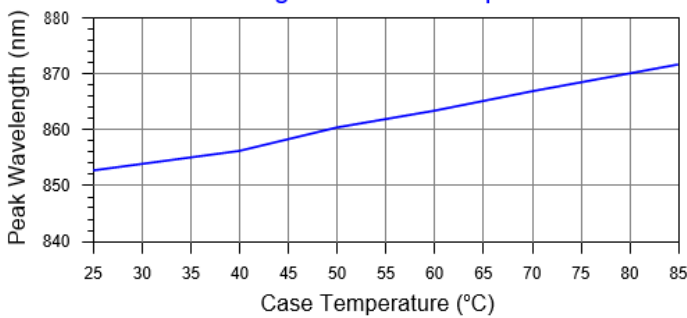
Optical Output Power v.s. Forward Current



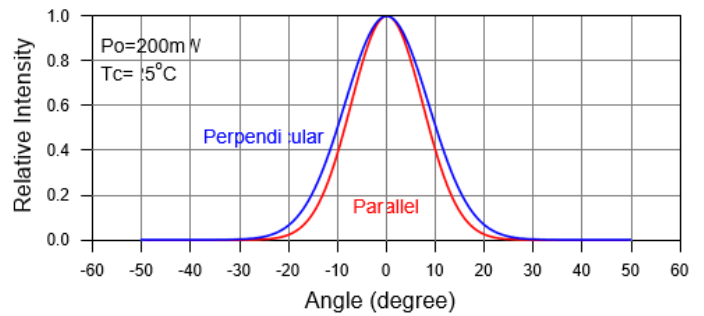
Forward Voltage v.s. Forward Current



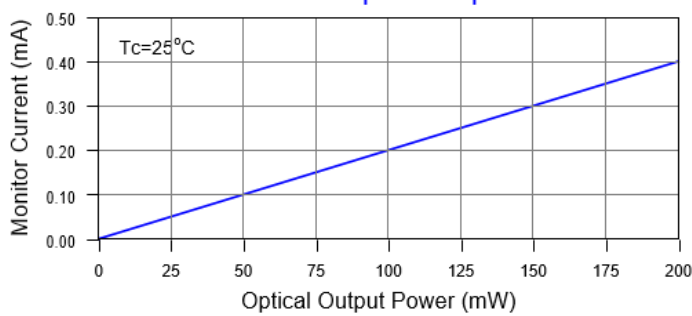
Peak Wavelength v.s. Case Temperature



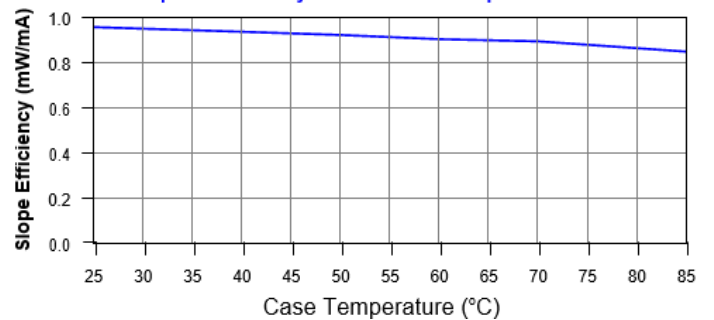
Far-Field Pattern



Monitor Current v.s. Optical Output Power



Slope Efficiency v.s. Case Temperature



Threshold Current v.s. Case Temperature

